AMENDMENT TO THE CLAIMS

The entire set of pending claims, including amendments to the claims, is submitted herewith pursuant to 37 CFR § 1.121(c)(3). This listing of claims will replace all prior versions, and listings of claims in the application.

1.   (Presently amended) A method of transferring data between a read/write transducer coupled to a data channel and a data storage medium, the method comprising:

encoding a first plurality of data blocks of a data field according to a first coding constraint for storage on the data storage medium, the data blocks having a predetermined block size and the data field comprising a last data block that <u>can</u> stores a number of data bytes fewer than that accommodated by the block size of the last data block;

<u>discontinuing use of the first coding constraint in response to detecting a start of the last data block</u>;

encoding the last data block according to a second coding constraint for storage on the data storage medium such that no pad bytes are required to complete encoding of the last data block;

decoding the first plurality of data blocks transferred from the data storage medium according to the first coding constraint; and

<u>in response to detecting the start of the last data block,</u> decoding the last data block transferred from the data storage medium according to the second coding constraint.

2.   (Original) The method of claim 1, wherein the first coding constraint comprises a first modulo requirement and the second coding constraint comprises a second modulo requirement differing from the first modulo requirement.

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3.   (Original) The method of claim 2, wherein the second modulo requirement has an associated modulo number less than that of the first modulo requirement.

4.   (Original) The method of claim 1, wherein the first coding constraint comprises a first modulo requirement corresponding in number to a number of data bytes defining the predetermined block size, and the second coding constraint comprises a second modulo requirement corresponding in number to a number of data bytes stored in the last data block.

5.   (Original) The method of claim 1, wherein the second coding constraint varies relative to the number of data bytes stored in the last data block.

6.   (Presently amended) The method of claim 1, ~~further comprising~~ wherein:
    ~~detecting a start of the last data block;~~
    ~~discontinuing~~ use of the first coding constraint is discontinued in response to detecting the start of the last data block if the last data block stores fewer data bytes than that accommodated by the block size of the last data block;~~ and~~
    ~~using the second coding constraint to decode the last data block in response to detecting the start of the last data block~~.

7.   (Presently amended) The method of claim 16, wherein detecting the start of the last data block comprises detecting a change of state of a read gate input into the data channel.

8.   (Presently amended) The method of claim 16, wherein detecting the start of the last data block comprises using a count of data field bytes to determine the start of the last data block.

9. (Original) The method of claim 1, wherein encoding the last data block further comprises providing error detection coverage for the last data block.

10. (Original) The method of claim 1, wherein encoding the last data block further comprises non-provision of error detection coverage for the last data block.

11. (Presently amended) An apparatus for processing information transferred between a read/write transducer coupled to a data channel and a data storage medium, the apparatus comprising:

an encoder for encoding a first plurality of data blocks of a data field according to a first coding constraint for storage on the data storage medium, the data blocks having a predetermined block size and the data field comprising a last data block that can stores a number of data bytes fewer than that accommodated by the block size of the last data block, the encoder encoding the last data block according to a second coding constraint for storage on the data storage medium such that no pad bytes are required to complete encoding of the last data block; and

a decoder that decodes the first plurality of data blocks transferred from the data storage medium according to the first coding constraint, the decoder decoding the last data block transferred from the data storage medium according to the second coding constraint.

12. (Original) The apparatus of claim 11, wherein a subset of circuitry of the encoder encodes the last data block.

13. (Original) The apparatus of claim 11, wherein a subset of circuitry of the decoder decodes the last data block.

14.   (Original) The apparatus of claim 11, wherein the first coding constraint comprises a first modulo requirement and the second coding constraint comprises a second modulo requirement differing from the first modulo requirement.

15.   (Original) The apparatus of claim 14, wherein the second modulo requirement has an associated modulo number less than that of the first modulo requirement.

16.   (Original) The apparatus of claim 11, wherein the first coding constraint comprises a first modulo requirement corresponding in number to a number of data bytes defining the predetermined block size, and the second coding constraint comprises a second modulo requirement corresponding in number to a number of data bytes stored in the last data block.

17.   (Original) The apparatus of claim 11, wherein the second coding constraint varies relative to the number of data bytes stored in the last data block.

18.   (Original) The apparatus of claim 11, further comprising a detector that detects a start of the last data block, wherein the decoder, in response to the detector detecting the start of the last data block, discontinues use of the first coding constraint and uses the second coding constraint to decode the last data block.

19.   (Original) The apparatus of claim 18, wherein the detector detects the start of the last data block by detecting a change of state of a read gate input into the data channel.

20.   (Original) The apparatus of claim 18, wherein the detector is coupled to a counter, the detector detecting the start of the last data block using a count of data field bytes indicated by the counter.

21.   (Original) The apparatus of claim 11, further comprising an error correction circuit that produces error correction data, wherein the encoder encodes the last data block to include the error correction data for the last data block.

22.   (Presently amended) A data storing system, comprising:

a data storage medium;

a transducer supported by a support structure in proximity with the medium;

an actuator that provides relative movement between the transducer and the medium; and

circuitry for processing information transferred between the transducer and the data storage medium, the circuitry comprising:

an encoder for encoding a first plurality of data blocks of a data field according to a first coding constraint for storage on the data storage medium, the data blocks having a predetermined block size and the data field comprising a last data block that can stores a number of data bytes fewer than that accommodated by the block size of the last data block, the encoder encoding the last data block according to a second coding constraint for storage on the data storage medium such that no pad bytes are required to complete encoding of the last data block; and

a decoder that decodes the first plurality of data blocks transferred from the data storage medium according to the first coding constraint, the decoder decoding the last data block transferred from the data storage medium according to the second coding constraint.

23.   (Original) The system of claim 22, wherein a subset of circuitry of the encoder encodes the last data block.

24.   (Original) The system of claim 22, wherein a subset of circuitry of the decoder decodes the last data block.

25.   (Original) The system of claim 22, wherein the first coding constraint comprises a first modulo requirement and the second coding constraint comprises a second modulo requirement differing from the first modulo requirement.

26.   (Original) The system of claim 25, wherein the second modulo requirement has an associated modulo number less than that of the first modulo requirement.

27.   (Original) The system of claim 22, wherein the first coding constraint comprises a first modulo requirement corresponding in number to a number of data bytes defining the predetermined block size, and the second coding constraint comprises a second modulo requirement corresponding in number to a number of data bytes stored in the last data block.

28.   (Original) The system of claim 22, wherein the second coding constraint varies relative to the number of data bytes stored in the last data block.

29.   (Original) The system of claim 22, further comprising a detector that detects a start of the last data block, wherein the decoder, in response to the detector detecting the start of the last data block, discontinues use of the first coding constraint and uses the second coding constraint to decode the last data block.

30.   (Presently amended) The system of claim 29 ~~22~~, wherein the detector detects the start of the last data block by detecting a change of state of a read gate input into a data channel of the system.

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31. (Presently amended) The system of claim 29 ~~22~~, wherein the detector comprises a counter, the detector detecting the start of the last data block using a count of data field bytes indicated by the counter to determine the start of the last data block.

32. (Original) The system of claim 22, further comprising an error correction circuit that produces error correction data, wherein the encoder encodes the last data block to include the error correction data for the last data block.

33. (New) An apparatus for processing information transferred between a read/write transducer coupled to a data channel and a data storage medium, the apparatus comprising:

an encoder for encoding a first plurality of data blocks of a data field according to a first coding constraint for storage on the data storage medium, the data blocks having a predetermined block size and the data field comprising a last data block that can store a number of data bytes fewer than that accommodated by the block size of the last data block;

a detector configured to detect the start of the last data block, the encoder, in response to the detector detecting a start of the last data block, discontinuing use of the first coding constraint and encoding the last data block according to a second coding constraint for storage on the data storage medium such that no pad bytes are required to complete encoding of the last data block; and

a decoder that decodes the first plurality of data blocks transferred from the data storage medium according to the first coding constraint, the decoder, in response to the detector detecting the start of the last data block, decoding the last data block transferred from the data storage medium according to the second coding constraint.

34.   (New) The apparatus of claim 33, wherein the first coding constraint comprises a first modulo requirement corresponding in number to a number of data bytes defining the predetermined block size, and the second coding constraint comprises a second modulo requirement corresponding in number to a number of data bytes stored in the last data block.

35.   (New) The apparatus of claim 33, wherein the second coding constraint varies relative to the number of data bytes stored in the last data block.

36.   (New) The apparatus of claim 33, wherein the detector detects the start of the last data block by detecting a change of state of a read gate input into the data channel.

37.   (New) The apparatus of claim 33, wherein the detector is coupled to a counter, the detector detecting the start of the last data block using a count of data field bytes indicated by the counter.

38.   (New) The apparatus of claim 33, further comprising an error correction circuit that produces error correction data, wherein the encoder encodes the last data block to include the error correction data for the last data block.